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ABSTRACT

Summarized in this publication are the statistical highlights, conclusions, and implications of a study designed to analyze the shifts in Mississippi's occupational and industrial employment structures, and their interrelationship during the period from 1950 to 1960. Using data obtained from the United States Bureau of the Census 1952 and 1961 reports on employed personnel, occupational changes were analyzed in terms of the two components: industry effect, and occupational mix effect. Influences of the components were investigated in terms of their forms, quantities, and directions both in gaining and losing occupations. Findings revealed that the total occupational change involved increases in professional, managerial sales, craftsmen, operatives, and service workers at the expense of farm laborers. This seems to indicate that the Mississippi economy demands new and changing skills and therefore its work force must be continuously trained to keep pace with the transitional economy such as is present in the U.S. if it is to achieve its social and economic goals. (Author/SN)

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JOB PATTERN AND COMPONENTS OF OCCUPATIONAL CHANGE IN MISSISSIPPI EMPLOYMENT, 1950-1960

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Paper Prepared for
The Annual Meeting of the Rural Sociological Society,
Baton Rouge, Louisiana, August 25-27, 1972

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JOB PATTERN AND COMPONENTS OF OCCUPATIONAL CHANGE IN MISSISSIPPI EMPLOYMENT, 1950-1960*

M. ElAttar**

Introduction

In a transitional and growing economy, such as that of the state of Mississippi, the occupational composition and skills required by each job are in process of change. These changes are themselves outcomes of mechanization, automation, and technological developments. Because of the nature of growth in such economies, knowledge of past and current trends in the changing employment composition is very essential. Vocational and educational training programs must be planned to anticipate the needs of the working work force as demanded by a changing and growing economy.

Objectives of the Paper

It is in this context that the goals of this paper are identified. The basic purpose of the paper is two fold: First, to analyze the relative gain or loss in the various major occupational and industrial structures of employment; second, to quantify the interrelation between these changes during the period 1950-1960.

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*Paper prepared for the Annual Meeting of the Rural Sociological Society, Baton Rouge, Louisiana, August 25-27, 1972.

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Definition of Basic Concepts

The present study utilizes the following concepts as building blocks for the analysis. The concepts may be briefly identified as follows:

Occupational Structure

The concept of occupational structure refers to the allocation of manpower to various functions instituted by the society and to which the term "occupational group" is assigned. Constituted in this definition are the movements of manpower among the instituted occupational groups as well as the relations among "its constituted subgroups" (Blau and Duncan, 1967). In short, the occupational structure of employment represents the "vertical composition of the employed labor force" (Rezler, 1969).

Industrial Structure

Industrial structure refers to the distribution of the manpower in a society into a comprehensive arrangement of concrete institutionalized systems of interrelated relationships clustered around the performance of a set of activities called "jobs," each of which is dominated by the general character of the whole which is termed "industry" or "economic activity". To contrast the concept of industrial structure of employment with that for occupational structure, the former represents the "horizontal composition of the employed labor force" (ElAttar, 1970; Rezler, 1969, Florence, 1964).

Occupational Pattern

"An occupational pattern for an industry is the percent distribution of occupational employment in that industry" (U. S. Bureau of Labor Statistics, 1969).

Occupational Mix

Occupational mix refers to what is favorable to the industry in terms of whether such mix is "compounded out of more of the higher- and less of the lower-skilled occupations" or vice versa. However, a favorable occupational mix depends on several factors among which are whether the industry is enjoying a boom or suffering recession, and to the extent to which interindustry competition is able to eliminate wage differentiations for the same job but in different industries (Thompson, 1968).

The Data

The data used in this paper were obtained respectively from the U. S. Bureau of the Census (1952, 1961). For the purposes of this study, comparability of the data from the two censuses has not been affected by the changes in census techniques regarding the employed persons.

Employed persons, as defined by the U. S. Bureau of the Census, "compromise all civilians 14 years old and over who were either (a) 'at work' -- those who did any work for pay, profit, or worked without pay for 15 hours or more on a family farm or in a family business; or (b) were 'with a job but not at work' -- those who did not work and were not looking for work but had a job or business from which they were temporarily absent because of bad weather, industrial dispute,

vacation, illness, or other personal reasons. Persons are classified as unemployed if they were 14 years old and over and not 'at work' but looking for work" (U. S. Bureau of the Census, 1961).

Method of Analysis

The major analytical technique used in the present analysis is the "concentration index." This index has the property of summarizing the changes contained in the occupational and industrial structures. The basic function of indices is to give a quick general idea of the investigated phenomena. Their major disadvantage is the sacrifice of some information for the sake of easy interpretation and clarity. The index of concentration helps us to assess the total shift in the occupational (or industrial) structure which the state has experienced during the ten-year period. The index was used by Florence and Wensley (1939), and Hoover (1941-42). For detailed explanation of the index, see Duncan, et al. (1961).

Components of Occupational Change

Occupations are jobs which are contained in the different industries forming the industrial structure of a society. In the United States, changes in the occupational structure of any given state are determined not only by the changes in the industrial structure in that state but also by those changes in the industrial structures of the nation and the region. For the purpose of this paper, however, the analysis will be limited to the components of occupational change which are pertinent only to the state. In this regard, occupational change will be conceived as determined by three components (Jaffe and Carleton, 1954; Gnanasekaran, 1966).

$$C_0 = E_g + E_i + E_{om}$$

where

C_0 = occupational change

E_g = the growth effect resulting from the growth of employment due to proportional increase in all industries and all occupations.

E_i = industry effect which results from a disproportionate growth in the industries and which affects occupational patterns by varying degrees.

E_{om} = occupational mix effect which results from the technological change that causes the volume and ingredients of the employed work force in a given industry to differ between the two censuses.

From the definitions of the three effects, it is clear that E_i and E_{om} (industry effect and occupation mix effect, respectively) are the two effects that beget change in the occupational structure. The growth effect, E_g, implies numerical growth that has no consequence in the relative distribution of the final change. Our tasks, then, will be limited to the analysis of the industrial effect and the occupational mix effect. In order to analyze these two effects, Tables 1 and 2 were constructed, which show the relative allocation

(Tables 1 and 2 about here)

of occupational employment to the jobs in the industrial structure of the state in 1950 and 1960. This relative allocation shows the occupational pattern of industries in the two censuses.

Occupational Pattern

It is obvious from Tables 1 and 2 that the various industries are differentiated from one another in regard to their occupational pattern. Such differentiation prevailed in 1950 and 1960. These

differentations are exemplified by the fact that some industries are dominated by two or three occupations, whereas others are composed of several occupations. For example, in agriculture, forestry, and fisheries, the three major occupational categories of farmers, managers, and laborers accounted for 98 percent and 96 percent of total employment in this industry in 1950 and 1960, respectively. That is, the share of the other six occupational groups employed in agriculture, forestry, and fisheries represented only 2 percent and 4 percent of total employment in 1950 and 1960, respectively. Such a situation is not observed in some of the other industries and services as, for example, in trade, transportation and communication, and entertainment and recreation services.

The census employment data for the state, cross-classified by occupations and industries, do not reproduce separate categories for farmers and managers. The data provided on this category in Tables 1 and 2 are estimated by proportional allocation. Comparing the occupational pattern for the state with that for the nation[1], one finds that the economies of both the state and the nation are steadily becoming more service oriented.[2]

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[1]For numerical data on the United States see ElAttar, 1971, Table 10.

[2]The service producing sector includes: transportation and communication; trade; finance, insurance, and real estate; business services; repair services; private household services; personal services; entertainment and recreation services; educational services; professional services; and public administration services. In Mississippi, these eleven-service industries have increased their relative share of the employed work force from 38 percent in 1950 to 50 percent in 1960. The two corresponding percentages for the United States are 52 and 55 for 1950 and 1960, respectively.

Moreover, an indication of mechanization and technological change may be inferred from the change in the job patterns of agriculture, mining, manufacturing, and finance. All these industries experienced gain in the occupational group of professional and technical workers. The nature of an industry, however, determines the relative loss or gain of occupational groups. The mining industry, for example, which constitutes coal mining, metal mining, crude petroleum and natural gas production, and quarrying and nonmetalic mining, has as one basic target the reduction of human fatalities by substituting machine power for manpower in jobs involving risk to human lives. This provides a partial explanation for the relative loss of clerical workers, craftsmen, operatives, service workers, and laborers engaged in the mining industry, as shown by Table 3. This does not mean that all the losses in mining are related

(Table 3 about here)

solely to technological changes; but they are a very major factor. Also, these relative changes in job patterns among the different industries indicate that the growth of a given industry will stimulate more expansion in particular occupations rather than the others, as shown by Table 3. For instance, the share of professional workers increased in seven industries and declined in the others, whereas the share of laborers increased in but four industries. An exception, however, were the clerical workers whose share increased in nine industries, and sales workers whose share increased in eight industrial groups.

Occupational Mix

Table 3 shows that this sort of change was not similar in all industries. The largest variation was observed to have taken place in the occupational groups of farmers and laborers in agriculture, forestry and fisheries. To elaborate, the farmers and related workers, who formed about 68 percent of the total employment in agriculture, forestry and fisheries in 1950 declined in significance to 50 percent in 1960, a drop of 18 percentage points. Other striking shifts in the occupation mix of specific industries included the following: (1) the share of professional workers increased in mining, and declined in professional services, entertainment, and business; (2) the share of clerical workers gained in business, finance, trade, professional services, and manufacturing, and declined in public administration; (3) the share of sales workers declined in finance and trade; (4) the share of craftsmen gained in manufacturing, public administration, and trade, and declined in business and construction; (5) the share of operatives gained in transportation, manufacturing, business, and construction, and declined in personal services and mining; (6) the share of service workers gained in personal entertainment and professional services, and declined in finance; (7) the share of laborers increased in agriculture, and declined in manufacturing and transportation.

Based on the above analysis, one may anticipate the change in job pattern in various industries in the future to follow the following stream: A decline in the proportion of the work force

employed in agriculture; a rise in the proportion of employment in manufacturing; and an increase in the proportion of the work force in the service producing industries.

Measuring the Components of Occupational Changes

As indicated above, occupational changes in this paper are conceptualized to be determined by three factors--the growth effect, the industry effect, and occupation mix effect. It is the purpose of this section to quantify these components of occupational changes. To perform this, Tables 4 and 5 were constructed.

(Tables 4 and 5 about here)

Computations of the components of occupational changes are illustrated in Table 6.

(Table 6 about here)

In Table 6, Columns 1 and 2 are the same as Columns 1 and 2 in Table 4. They simply represent the number employed in different occupations in 1950 and 1960. Column 3 is obtained by a process of standardization in which the employment in each occupation group in 1950 was divided by total employment in 1950 and the outcome was multiplied by total employment in 1960. In other words, the assumption involved is that there has been no structural change either in industry or occupation mix during the period. Accordingly, Column 3 is obtained by deflating the figures in Column 1 by the constant 0.951856 (i.e., total of Column 2 divided by total of Column 1). Column 4 was obtained by distributing the

total employment in each industry in 1960 (Column 2 in Table 5) to the industry-specific occupation mix as of the base year 1950 (Table 1), and summing on all the figures in industry cells for each occupational category. The resulting summed values represent the expected employment in each occupational group that would be realized if the change in the industrial structure that took place in the past would prevail in the future, but ruling out any change within industry. Column 5 is obtained by subtracting Column 1 from Column 2 and is therefore the same as Column 3 in Table 4. Column 6 implied changes in occupations due to employment growth, since it results from the difference between Column 3 and Column 1. Column 7 gives the differences between Column 4 minus Column 3, and as such it represents the effect of change in the industrial structure on occupational movements during the ten-year period. Column 8 is an outcome of the effect of differentiated occupation pattern among industries during the decade, since it represents the final resultants between Column 2--that resulted from the influences of both industry structure and occupation mix changes--minus Column 4, that resulted from the assumption that the occupational pattern of 1950 would prevail in 1960.

Quantification of the Components

In order to quantify the actual components of occupational changes, the reader is reminded of the fact that the growth effect (Column 6, Table 6) has no influence on the change in the occupational structure of employment. This leaves us with the other two

components, namely, industry effect and occupational mix effect. The form and magnitude of these two components are computed and presented in Table 7. The computations in Table 7 show that,

(Table 7 about here)

between 1950 and 1960, two-thirds of the change in the occupational structure of employment in Mississippi were contributed by shifts in the industrial structure and the remaining third by variations in job pattern within industries. Excepting the not reported category, five occupational groups (of which four are gaining occupations) also showed, to a varying degree, this same pattern of change in which the share of industry effect was greater than that for the occupation mix effect. The five major occupational groups include farmers and farm managers; clerical and kindred workers; craftsmen, foremen and kindred workers; operatives and kindred workers; and service workers including private household workers. The magnitude of the percentage increase dominated by industry effect ranged from 70 percent for clerical and kindred workers to 78 percent for service workers. The losses in farmers and farm managers were jointly effected by the industry and occupation mix effects, where the former effect amounted to 57 percent and the latter to 43 percent.

The remaining four categories of occupation, namely, professional and technical workers; managers officials, and proprietors; sales workers; and laborers including farm, were subjected to a counterpoised pattern in which the industry and occupation mix effects were not working in the same direction. In the case of professional workers and sales workers, as indicated by Table 7, the industry positive

effect was sufficient to counterbalance the negative magnitude of the occupation mix effect and to add employment to these two occupational categories during the period 1950-1960. For the occupational group of managers, officials, and proprietors, the situation was working in exactly the opposite directions. Specifically, it was the influence of the occupational mix effect which exceeded that of the industry negative effect on this major occupational category. In the case of laborers including farm, it was the negative influence of industry effect on this occupational group which dominated that of the occupation mix effect and led to the decrease in this major occupational category.

Summary, Conclusion, and Implications

Summary

This analysis explored the shifts in the occupational and industrial structures of Mississippi's employment and their interrelationship during the period 1950-1960. During the ten-year period, a net decline of 4.8 percent in the volume of employment between 1950 and 1960 was revealed by the analysis. Relative occupational changes were analyzed in terms of two components: industry effect, which reflects the effect of industrial change in occupations, and occupational mix effect, which implied the changes in job pattern of industries. The influences of these two components were investigated in terms of their forms, quantities, and directions, both in the gaining and losing occupations. Between 1950 and 1960, two-thirds of the change in the occupational structure of employment in Mississippi were contributed by shifts in the industrial structure and the remaining

one-third by variation in job pattern within industries. The effects of industry and occupational mix worked in the same direction for certain occupations and in opposite directions for others. Their magnitude, however, was never the same. In general, the total occupational change involved the gains in professional, managerial, clerical, sales, craftsmen, operatives, and service workers at the expense of farmers, and farm managers and laborers, including farm laborers. One may hypothesize that the introduction of mechanization and other labor-saving devices appears to be of significant effect in that it produced the tremendous reduction in the employment of these two occupational groups as well as the unemployment among experienced workers in the other occupations. This latter point concerning unemployment will be elaborated below.

Conclusions and Implications

The utilization of two analytical concepts, namely, the occupational and industrial structures, as indicators for the process of redivision of labor which, in its turn, is an outcome of three processes--mechanization, automation, and technological change--provides certain basic implications to those involved in community decision making. Table 8 implied the coexistence of job expansion and experienced-unemployed civilians in all occupations, without exception. The unemployment rate of experienced workers increased from 3.4 percent in 1950 to 5.3 percent in 1960, an excess of approximately 2 percent. This situation represents a "bitter human tragedy and an inexcusable economic waste", since it implies that those who are idle are unable to fill vacant jobs. A dynamic and

transitional economy, such as that of the State of Mississippi, demands new and changing skills, and if the community, state, or nation desires to achieve its social and economic goals it has to train its work force to keep up with the continuous process of redivision and redistribution of labor brought about by technological development and change.

Future Research

This study did not attempt to examine the roles of industry and occupation mix effects on the joint distribution of occupations and industries. Also, the use of major industry and occupational groupings in the analysis tends to conceal certain facts which may be uncovered by utilizing detailed classifications for occupations and industries. This kind of detailed analysis may be enhanced by creating industrial categories that are homogenous with regard to their effects on the different occupations, and by combining occupations that seem to be influenced by similar industrial and job pattern changes. Results of such type of analysis are potentially a major source of information for developing estimates and projections of industry and occupational employment, which are necessary for the State of Mississippi.

TABLE 1. OCCUPATIONAL PATTERN OF EMPLOYED PERSONS 14 YEARS OLD AND OVER IN MISSISSIPPI, 1950

Industries \ Occupations	Professional Workers	Farmers*	Managers*	Clerical Workers	Sales Workers	Craftsmen	Operatives	Personal Service	Laborers	Not Reported	Total
Agric., forestry, and fisheries	.31	56.06	11.77	.15	.02	.26	1.37	.13	29.91	.02	100.00
Mining	11.25	5.72	.91	8.74	.44	16.20	54.94	1.11	.22	.47	100.00
Construction	3.73	4.70	.99	2.47	.07	53.15	8.98	.60	20.09	.22	100.00
Manufacturing	1.62	4.14	.88	4.85	2.54	10.07	48.55	1.79	25.01	.55	100.00
Trans. and Communication	2.54	5.52	1.16	20.09	.39	19.85	29.11	2.98	18.03	.33	100.00
Trade	1.34	22.02	4.63	8.25	28.31	5.37	12.56	13.41	3.87	.24	100.00
Finance, etc.	1.86	16.31	3.56	38.49	28.84	1.24	.50	6.17	2.74	.29	100.00
Business and repair services	4.24	6.67	1.39	6.21	1.94	66.10	9.92	.84	2.55	.14	100.00
Personal services	1.54	2.54	.53	1.84	.36	1.49	13.34	72.44	5.80	.12	100.00
Entertainment and recreation	18.03	20.52	3.97	13.12	2.85	10.47	.05	24.52	4.06	.41	100.00
Educational serv.	74.90	1.65	.35	5.72	.17	1.99	.59	12.45	.98	.20	100.00
Other prof. serv.	55.49	2.07	.40	14.76	.15	1.50	2.02	22.43	.89	.29	100.00
Public administration	13.32	11.03	2.34	44.23	.11	3.07	4.71	14.51	3.83	.85	100.00
Not reported	2.97	1.70	.38	3.22	1.58	2.57	2.86	2.20	4.22	78.30	100.00
Total	5.76	28.85	6.06	5.37	4.61	7.48	11.86	9.67	18.97	1.37	100.00

Source: Computed from U. S. Bureau of the Census. U. S. Census of Population: 1950. Vol. II, Characteristics of the Population, Part 24, Mississippi. (Washington, D.C.: U. S. Government Printing Office, 1952), Table 8.

*Data are proportionally estimated.

TABLE 2. OCCUPATIONAL PATTERN OF EMPLOYED PERSONS 14 YEARS OLD AND OVER IN MISSISSIPPI, 1960

Industries \ Occupations	Prof. Wkrs.	Farmers*	Managers*	Clerical Wkrs.	Sales Wkrs.	Crafts-men	Opera-tives	Serv. Wkrs.	Labor-ers	Not Reported	Total
Agric., forestry, & fisheries	.90	29.21	20.67	.34	.06	.89	1.52	.24	46.14	.03	100.00
Mining	13.37	4.37	3.05	8.41	.49	15.88	52.45	.82	-	1.16	100.00
Construction	4.22	4.18	2.97	3.09	.14	53.92	11.36	.54	19.11	.47	100.00
Manufacturing	2.36	2.67	1.89	6.35	2.85	14.27	53.97	1.66	12.53	1.45	100.00
Trans. & communi-cation	3.33	4.93	3.48	20.15	.65	17.82	34.74	2.76	11.15	.99	100.00
Trade	1.13	13.43	9.50	10.59	25.32	7.56	14.39	12.61	4.50	.97	100.00
Finance, etc.	2.07	12.87	9.12	42.23	24.93	1.38	.30	4.70	1.51	.89	100.00
Business & repair serv.	2.77	7.85	5.50	10.57	2.20	52.34	13.73	1.29	3.04	.71	100.00
Personal services	.96	1.64	1.16	2.09	.37	1.21	9.37	78.68	4.25	.27	100.00
Entertainment & recreation	13.45	12.02	8.63	12.77	3.13	10.55	1.89	30.26	6.45	.85	100.00
Educational serv.	68.38	1.33	.94	7.29	.12	2.02	1.65	16.90	.88	.49	100.00
Other prof. serv.	48.88	1.64	1.17	16.40	.07	1.72	1.68	27.09	.76	.59	100.00
Public administra-tion	14.17	7.69	5.45	39.81	.06	8.80	3.86	15.52	3.19	1.45	100.00
Industry not re-ported	.61	.81	.56	1.10	.41	.77	1.32	.49	2.73	91.20	100.00
Total	7.99	10.61	7.51	8.32	5.40	10.36	17.59	14.04	15.68	2.50	100.00

Source: Computed from U. S. Bureau of the Census. U. S. Census of Population: 1960. Detailed Characteristics, Mississippi. Final Report PC(1)-26D. (Washington, D.C.: U. S. Government Printing Office, 1962), Table 125.

*Data are proportionally estimated.

TABLE 3. CHANGES IN OCCUPATIONAL PATTERN OF EMPLOYED PERSONS 14 YEARS OLD AND OVER IN MISSISSIPPI, 1960*

Industries \ Occupations	Prof. Wkrs.	Farmers	Managers	Clerical Wkrs.	Sales Wkrs.	Craftsmen	Operatives	Serv. Wkrs.	Laborers	Not Reported
Agric., forestry, & fisheries	.59	-26.85	8.90	.19	.04	.63	.15	.11	16.23	.01
Mining	2.12	-1.35	2.14	-.33	.05	-.32	-2.49	-.29	-.22	.69
Construction	.49	-.52	1.98	.62	.07	-4.23	2.38	-.06	-.98	.25
Manufacturing	.74	-1.47	1.01	1.50	.31	4.20	5.42	-.13	-12.48	.90
Trans. & communication	.79	-.59	2.32	.06	.26	-2.03	5.63	-.22	-6.88	.66
Trade	-.21	-8.59	4.87	2.34	-2.99	2.19	1.83	-.80	.63	.73
Finance, etc.	.21	-3.44	5.56	3.74	-3.91	.14	-.20	-1.47	-1.23	.60
Business & repair services	-1.47	1.18	4.11	4.36	.26	-13.76	3.81	.45	.49	.57
Personal services	-.58	-.90	.63	.25	.01	-.28	-3.97	6.24	-1.55	.15
Entertainment & recreation	-4.58	-8.50	4.66	-.35	.28	.08	-.16	5.74	2.39	.44
Educational serv.	-6.52	-.32	.59	1.57	-.05	.03	.06	4.45	-.10	.29
Other prof. serv.	-6.61	-.43	.77	1.64	-.08	.22	-.34	4.66	-.13	.30
Public administration	.85	-3.34	3.11	-4.42	-.05	3.73	-.85	1.01	-.64	.60
Not reported	-2.36	-.89	.18	-2.12	-1.17	-1.80	-1.54	-1.71	-1.49	12.90
Total	2.23	-18.24	1.45	2.95	.79	2.88	5.73	4.37	-3.29	1.13

Source: Tables 1 and 2.

*Total of occupational pattern for each industry (row total) should add to zero.

TABLE 4. CHANGES IN OCCUPATIONAL EMPLOYMENT OF PERSONS 14 YEARS OLD AND OVER IN MISSISSIPPI, 1950-1960

Major Occupational Group	Employment		Employment Change		Percent Distribution		Shift in Occupational Structure
	1950	1960	Number	Percent	1950	1960	
	1	2	3=2-1	4=3÷1	5	6	7=6-5
Gaining Occupations	374,015	502,928	128,913	34.47	52.18	73.71	21.53
Professional wkrs.	41,323	54,516	13,193	31.93	5.76	7.99	2.23
Managers	43,425	51,244	7,819	18.01	6.06	7.51	1.45
Clerical wkrs.	38,475	56,763	18,288	47.53	5.37	8.32	2.95
Sales wkrs.	33,015	36,801	3,786	11.47	4.61	5.40	.79
Craftsmen	53,613	70,704	17,091	31.88	7.48	10.36	2.88
Operatives	85,052	120,048	34,996	41.15	11.86	17.59	5.73
Service wkrs.	69,292	95,765	28,473	38.21	9.67	14.04	4.37
Not reported	9,820	17,087	7,267	74.00	1.37	2.50	1.13
Losing Occupations	342,836	179,411	-163,425	-47.67	47.82	26.29	-21.53
Farmers	206,840	72,426	-134,414	-64.98	28.85	10.61	-18.24
Farm laborers	88,839	64,731	-24,108	-27.14	12.39	9.49	-2.90
Laborers	47,157	42,254	-4,903	-10.40	6.58	6.19	-.39
Total	716,851	682,339	-34,512	-4.81	100.00	100.00	

Source: U. S. Bureau of the Census. U. S. Census of Population: 1950. Characteristics of the Population, Mississippi, Table 30a; and U. S. Census of Population: 1960. General Social and Economic Characteristics, Mississippi, Table 61.

TABLE 5. CHANGES IN INDUSTRIAL STRUCTURE OF EMPLOYED PERSONS 14 YEARS OLD AND OVER IN MISSISSIPPI, 1950-1960

Industrial Group	Employment		Employment Change		Percent Distribution		Shift in Occupational Structure
	1950	1960	Number	Percent	1950	1960	
	1	2	3=2-1	4=3÷1	5	6	7=6-5
Growing Industries	408,149	532,991	124,842	30.59	56.94	78.11	21.17
Mining	3,617	5,969	2,352	65.03	.51	.87	.36
Construction	36,455	44,849	8,394	23.03	5.09	6.57	1.48
Manufacturing	90,338	130,804	40,466	44.79	12.60	19.17	6.57
Trans. & communication	30,764	35,254	4,490	14.59	4.29	5.17	.88
Trade	95,592	110,931	15,339	16.05	13.34	16.26	2.92
Finance, etc.	9,127	15,312	6,185	67.77	1.27	2.24	.97
Business & rep. serv.	11,134	11,435	301	2.70	1.55	1.68	.13
Services	57,075	73,570	16,495	28.90	7.96	10.78	2.82
Educational serv.	26,186	35,997	9,811	37.47	3.65	5.28	1.63
Other prof. serv.	19,062	30,840	11,778	61.79	2.66	4.52	1.86
Public admin.	18,004	24,573	6,569	36.49	2.51	3.60	1.09
Not reported	10,795	13,457	2,662	24.66	1.51	1.97	.46
Declining Industries	308,702	149,348	-159,354	-51.62	43.06	21.89	-21.17
Agric. & forestry	305,052	146,278	-158,774	-52.05	42.55	21.44	-21.11
Entertainment & recreation	3,650	3,070	-580	-15.89	.51	.45	-.06
Total	716,851	682,339	-34,512	-4.81	100.00	100.00	

Source: See footnote of Table 4.

TABLE 6. COMPONENTS OF CHANGE IN OCCUPATIONAL EMPLOYMENT, MISSISSIPPI, 1950-1960

Occupations	Employment 1950	Employment 1960	1960 Total Employment Weighted by 1950 Industry & Occup. Patterns	1960 Industry Employment Weighted by 1950 Occupation Patterns	Changes resulting from the effect of: All Factors	Employment Growth	Industry	Occupation Mix
	1	2	3	4	5=2-1	6=3-1	7=4-3	8=2-4
Gaining Occupations	374,015	502,928	356,008	452,790	128,913	-18,007	96,782	50,138
Professional wkrs.	41,323	54,516	39,334	57,502	13,193	-1,989	18,168	-2,986
Managers	43,425	51,244	41,334	26,503	7,819	-2,091	-14,831	24,741
Clerical wkrs.	38,475	56,763	36,623	50,700	18,288	-1,852	14,077	6,063
Sales wkrs.	33,015	36,801	31,425	40,289	3,786	-1,590	8,864	-3,488
Craftsmen	53,613	70,704	51,032	65,491	17,091	-2,581	14,459	5,213
Operatives	85,052	120,048	80,957	110,837	34,996	-4,095	29,880	9,211
Service wkrs.	69,292	95,765	65,956	89,142	26,142	-3,336	23,186	6,623
Not reported	9,820	17,087	9,347	12,326	7,267	-473	2,979	4,761
Losing Occupations	342,836	179,411	326,331	229,549	-163,425	-16,505	-96,782	-50,138
Farmers	206,840	72,426	196,882	126,171	-134,414	-9,958	-70,711	-53,745
Laborers	135,996	106,985	129,449	103,378	-29,011	-6,547	-26,071	3,607
Total	716,851	682,339	682,339	682,339	-34,512	-34,512		

Source: Computed from Tables 1,4, and 5.

TABLE 7. INDUSTRY AND OCCUPATIONAL MIX EFFECTS ON EMPLOYMENT BY MAJOR OCCUPATIONAL GROUPS IN MISSISSIPPI, 1950-1960

Occupations	Magnitude of the Components of Structural Change				
	Numerical Value			Relative Value	
	Total	Industry Effect	Occupation Mix Effect	Share of Industry Effect	Share of Occupation Mix Effect
	(1)	(2)	(3)	(4)=(2)÷(1)	(5)=(3)÷(1)
Gaining Occupations	146,920	96,782	50,138	65.87	34.13
Professional wkrs.	15,182	18,168	-2,986	119.67	-19.67
Managers	9,910	-14,831	24,741	-149.66	249.66
Clerical wkrs.	20,140	14,077	6,063	69.90	30.10
Sales wkrs.	5,376	8,864	-3,488	164.88	-64.88
Craftsmen	19,672	14,459	5,213	73.50	26.50
Operatives	39,091	29,880	9,211	76.44	23.56
Service wkrs.	29,809	23,186	6,623	77.78	22.22
Not reported	7,740	2,979	4,761	38.49	61.51
Losing Occupations	-146,920	-96,782	-50,138	65.87	34.13
Farmers	-124,456	-70,711	-53,745	56.82	43.18
Laborers	-22,464	-26,071	3,607	116.06	-16.06

Source: Column 1 = (Column 5) - (Column 6) in Table 6. Columns 2 and 3 are respectively Columns 7 and 8 in Table 6.

TABLE 8. CHANGE AND RATE OF EXPERIENCED CIVILIAN UNEMPLOYMENT BY MAJOR OCCUPATIONAL GROUPS, MISSISSIPPI, 1950-1960

Occupations	No. Unemployed		Change		Unemployment Rate[a]		
	1950	1960	Number	Percent	1950	1960	Excess over 1950[b]
Professional wkrs.	444	813	369	83.1	1.1	1.5	.4
Farmers	658	1,059	401	60.9	.3	1.4	1.1
Managers	377	633	256	67.9	.9	1.2	.3
Clerical wkrs.	703	1,894	1,191	169.4	1.8	3.2	1.4
Sales wkrs.	636	1,266	630	99.1	1.9	3.3	1.4
Craftsmen	2,984	4,811	1,827	61.2	5.3	6.4	1.1
Operatives	3,697	8,645	4,948	133.8	4.2	6.7	2.5
Pvt. household wkrs.	2,249	3,482	1,233	54.8	6.3	6.8	.5
Service wkrs.	1,568	2,879	1,311	83.6	4.2	5.7	1.5
Farm Laborers	2,947	5,602	2,655	90.1	3.2	8.0	4.8
Laborers	3,633	5,195	1,562	43.0	7.2	10.9	3.7
Not reported	5,624	1,569	-4,055	-72.1	36.3	8.4	-27.9
Total	25,520	37,848	12,328	48.3	3.4	5.3	1.9

Source: U. S. Bureau of the Census. U. S. Census of Population: 1960. Detailed Characteristics. Mississippi. Final Report PC(1)-26D. (Washington, D.C.: U. S. Government Printing Office, 1962), Table 120.

[a]Computed as a percentage of experienced civilian labor force.

[b]Unemployment rate in 1960 minus unemployment rate in 1950.

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